THE

REGISTER OF PENNSYLVANIA.

DEVOTED TO THE PRESERVATION OF EVERY KIND OF USEFUL INFORMATION RESPECTING THE STATE.

EDITED BY SAMUEL HAZARD.

VOL. VI.—NO. 26. PHILADELPHIA, DEC. 25, 1830. NO. 156

[From the States' Advocate.]

THE SUSQUEHANNA AND SCHUYLKILL,

OR

CENTRAL RAILWAY.

NO III.

Let us further inquire upon the subject of the *utility* of this railway, whether the exuberant products of the Susquehanna waters would take the route to Pottsville.

A large proportion of it would, if it be the nature of man to seek the amelioration of his condition by the speediest, surest, and shortest means.

The West Branch, flowing 150 miles, and the North 250, bring the produce of their vallies, mineral and vegetable, without danger, and with little expense or labor, in a few days, to the Sunbury basin. Arks carrying 60 tons, are navigated 150 miles to the confluence of the branches by three or four hands at an expense of about thirty dollars, or a third of a cent per ton per mile.* It is obvious that these cargoes, were the canal extended to the sources of the river would never enter them, to be dragged twenty-five miles a day, at six times the expense. In rafts, the disparity is yet greater, and both will take the channel and current of the river, as far as safety permits—that is to the junction; but here, "as if nature herself would aid us," commences a series of obstructions and dangers, which compels them often to leave part of their load, and frequently they find low water, which obliges them to leave the whole.

The Shamokin Dam and Ripples first present themselves below Sunbury. M'Kees half falls, Foster's falls, Hunter's Falls and Brushy Rock succeed. Then, below Middletown, we have the Swatara falls, the great Conewago falls, Halderman's ripples, and the Spinning wheel, before reaching Columbia. Some of the latter rapids will not be met, by unlading at York Haven; and none would be hazarded by stoppping at Sunbury, when the cargo would take the rail road. Below Columbia, danger, difficulty and expense incurred; but arks and rafts which arrive safely at Columbia, generally proceed further to the tide water of the Chesapeake.

So far as the course is clear, and the water sufficient, it is not to be expected that arks or rafts will transhipp into Canal boats, either at Muncy, Nanticoke or Northumberland; and from those boats transfer their cargoes to the Columbia rail way. If they pass Sunbury, they pass the entrance of the circuitous course of the Union Canal, and deposit their burden at their nearer port of York Haven, or proceed "to tide" *without breaking bulk.*

The great market, half way between the Susquehanna and the Schuylkill, created by the mines of the Shamokin and Mahony, and the trade and population of the Schuylkill, would powerfully attract the river trade in that direction; and at all seasons of the year, whether the canal were open or locked up by frost, the rail road would be a *certain, swift,* short, and reciprocal conveyance Eastward, Westward, and Northward.

* Sixty tons, 150 miles, at a third of a cent per mile - - - - - - $30 00
The expense is less.
Four men three days deseending, and four days returning, at $1 - - - 28 00

Neither the Union Canal, nor the Columbia rail road' will sufficiently subserve the commerce of the two branches, for additional reasons.

The Juniata trade, and the mines of *Pine Grove,* or Swatara will probably occupy the Union Canal to the full extent of its capacity. It may obtain some additional freight, if it requires it, but to transport to Philadelphia any considerable portion of the immense property of the two branches, is out of all probability. What are the distances?

From the junction of the N. & W. Branches to the E. end of the Union Canal, is - - -		61
From thence to Philadelphia by that Canal and the Schuylkill, about 80 and 66, - - - -		146
	Miles,	207
From Sunbury by rail road to Pottsville, - - - -	45	
And from Pottsville by Schuylkill navigation, - -	108	
		153
Against the Union canal route, and in favor of the Central route, - - - - - - -		54

The disparity in favor of Danville on the north Branch, 13 miles above Sunbury is yet greater; thus:

From Sunbury to Philadelphia by way of the Union Canal, &c. as above, - mls.		207
Danville above Sunbury, - - - -		13
From Danville to Philadelphia, by way of the Union Canal, - - - - - -		220
But from the east end of the Branch rail road, where it touches the river near Danville, to Pottsville by Rail Road,	40	
Pottsville to Philadelphia, by Schuylkill navigation, - - - - -	108	
		148
Difference against the Union Canal route—and in favor of Danville, - - - -		72

Besides *distance,* we are to recollect the *hazards* from the numerous and dangerous obstructions, and the low water below Sunbury; and the dangers greatly increased, further on to Columbia; while the Baltimore attraction increases also, in an immense ratio; at least "equal to the square of the distance."

Independent of these heavy objections, how does the distance of the *Columbia route* bear comparison with the course of the proposed *Central rail road,* by the Shamokin.

From the junction of the N. and W. Branches to the Swatara, - - - - - -	miles, 61
Thence to Columbia about - - - - -	20
Thence by rail road to Philadelphia - -	87
From the confluence to Philadelphia by Columbia, - - - - - - - - -	168
From Sunbury, as above, by Pottsville, - -	154
Difference against Columbia, - - -	14
From Danville by Pottsville 5 miles less than Sunbury, and 13 further from Columbia,	18
Difference against Columbia at Danville, -	32

Thus, then, the central railway in point of proximity, and of perfect security in the navigation leading to it,

possesses unquestionable advantages over the Columbia route, or even that by the Union Canal. But worthy of more regard than all, incalculably, and the improvements, the home market, the active industry, gathering and growing population, in reciprocal trade and intercourse which would burst from the hills and vallies between the Susquehannah and the Schuylkill; but which the Swatara and Columbia routes would suffer to remain forever useless, silent, stagnant, in "uncreated night."

It is far from improbable, that the Pennsylvania canal and the Columbia rail way, will carry a portion of their contents to York Haven, for the market of Baltimore; and that much merchandize will be sent from that city, in exchange.—But, "tap the river," at Danville and Sunbury, for the rail road transit, and Philadelphia receives the trade, and exclusively, with all its yearly accumulations; and by this conveyance, transmits, in return, her merchandize to the "heart of the state," to be diffused throughout every artery of the 25,000 square miles, drained by the Susquehanna.

That the Columbia rail way, and the Chesapeake and Delaware canal, will receive some portion of the river trade, and pass it on to Philadelphia, is not contested; but, it is asserted with much confidence, that, the amount conveyed by these routes will be inconsiderable compared to the *millions* which meet at the confluence, in the Sunbury basin. It is moreover, evident, that every mile produce descends below Sunbury, it approaches Baltimore in a direct line, and Philadelphia obliquely; and consequently the hazard to Philadelphia, of the loss of the trade is every mile increased. Recurrence to the distances, shows this clearly. Thus:—

From Sunbury to Pottsville, by railway,	45 mls.
From Pottsville to Philadelphia, - -	108
	—153
From Swatara to Philadelphia, - - -	146
Approach to Philadelphia in descending 61	——
miles by canal from Sunbury! - - -	7
From Sunbury to Baltimore by the canal to	
York Haven, and by the railway to Baltimore,	147
From Swatara to Baltimore, - - -	86
Approach to Baltimore in descending to	——
Swatara from Sunbury! - - - -	61

It appears then, that in descending from Sunbury to the Union canal, we arrive 61 miles nearer to Baltimore, and seven miles nearer to Philadelphia!

The *time*, or *rate* of conveyance deserves illustration. *We can reach tide water, from Swatara, by the river, Baltimore or the rail road, and back again three times, before there is one return through the Union Canal from Philadelphia!!*

Let then our city shun the deceptive notion, that either the Union Canal, or the Delaware Canal, will secure her the trade of the Susquehanna. They will prove mere practical *decoys*, to allure this great wealth into the port of the sagacious Marylanders. *Time* and *distance* govern the inducement to our market rather than another, "other things being equal." The distance of 32 miles from Liverpool to Manchester, traveled in 33, 60 or 100 minutes, is but equal to 4, 8 or 12 miles of common Turnpike. If the project of a parallel and equal railway, there, be executed, then the shortest distance will possess the advantage. At Mauch Chunk we run 9 miles in 30 minutes. The speed, in effect, abbreviates the distance; and if the railway does not literally "annihilate space and time," it certainly *abbreviates* them to all practical purposes.

Suppose then a canal boat freighted with flour at the Swatara, and the Baltimore railway completed, as it soon will be, what would be the destination of the cargo—Philadelphia or Baltimore? Distance to Philadelphia 146 miles, requiring 14 days to arrive and return; Baltimore 86 miles; viz:—York Haven 6, Baltimore, by railway, 80, requiring 2 days to arrive and return! Could any man hesitate about the routes? Again, therefore, we warn the Philadelphians not to trust the Union Canal for carrying to her the Susquehannah commerce, even if she can be delusively persuaded that it possesses the *capacity*.

Beyond all controversy, the central railway, based upon such a commerce as this,—upon such inexhaustible *sources* of a progressive commerce, directed from the Sunbury basin, toward Schuylkill, would be productive of *great utility to the community of Philadelphia*,—and to the liberal and enlightened *citizens* who invested their *capital* in its construction; and would be not merely highly *useful*, but productive of *substantial honor, of grateful commendation*, and wide-spreading durable *beneficence*.

AMICUS VERITATIS.

—

NO. IV.

Comparison of the Central and Catawissa Routes.

3. Is the Central route the most eligible? is the next inquiry.

There is but one other—called the *Catawissa route*.—Let us examine their comparative pretensions.

Formerly, the projected Catawissa route, was to commence, by Mr. Robinson's survey, at Pottsville, and coinciding with the Central route to the summit of the Broad Mountain, there diverge North Eastward fifteen miles, and then South West to Catawissa, about thirty or thirty four miles in the whole. (*a*) Recently, this course appears to have been abandoned; and it is proposed to construct a road from Catawissa, up the creek, a south east course, to the summit of the Broad Mountain, thirty four miles, thence to Tamaqua, about nine miles, and thence South down the Little Schuylkill to Port Clinton, twenty one miles; in all, sixty four miles; leaving Pottsville, and all the mines, and towns, and improvements in its vicinity, far to the West. Both these Catawissa courses shall be considered.

It will not be controverted, that, the *eligibility* of the course of a road depends, principally, upon its *utility*. The *length*, the *expense* and *difficulty* of construction also, have weight; but, that UTILITY is the paramount object, to which all others must yield, is a proposition almost self evident. If a proposed road be of *no use*, it will justify *no expense;* if it be a *little* useful, it will warrant a *little* expense, if *greatly* useful, it will authorise a *great* expense; the amount however, always in just proportion to the magnitude of the object: that is, to the degree of utility. This is an axiom needing no illustration. It is only necessary to apply it, to produce a just decision.

Would then the Catawissa route, or the Central route be of the greatest utility? The great utility of the latter having been just exhibited, an examination of the Catawissa course, absolutely, and comparatively, follows next. The first and most obvious objection to the utility of the Catawissa route is, that, being twenty miles above the union of the West and North Branches, it would not embrace the valuable commerce of the West Branch. The great amount of this commerce, and its progressive accumulations are not denied, for it is undeniable; and therefore, Cattawissa alleges, that at Northumberland the point of confluence, the immense products descending the W. Branch, might wheel to the left, at a right angle, *up stream*, twenty miles, and passing Danville, cross over the North Branch current, to the Cattawissa rail way! The mere suggestion of so absurd a project, only proves how indispensible is the West Branch trade to any rail road from the Susquehanna to the Schuylkill. The resort to such a proposal is, in reality, and virtually such a confession. To add twenty miles to the length of the Catawissa route, and that against a current of four or five miles an hour, is at least a very awkward contrivance, yet it has really been advanced with apparent gravity. Such, often, are the projects of *men*, when they attempt to thwart the plain course of *nature*.

Let this project, however, be examined more closely. The commerce of the West Branch passes down

(*a*) These are the *supposed* distances.

in rafts and arks, which will neither float against the strong current, nor can they be *squeezed* through the canal. They are of large unwieldy bulk, and of obstinate and unyielding materials, and it has long been settled, that "a camel will not pass through the eye of a needle." This is assuredly, an embarrassing affair,and the only remedy seems to be the old one; "if the mountain will not come to Mahomet, Mahomet must go to the mountain."

But perhaps, it may be proposed to carry the W. Branch products up the North Branch, in *canal boats* to the Cattawissa road. Unfortunately, here again is another obstruction, in the way of *Balaam*. The W. Branch trade is not in *Canal boats*. Nor is there any Canal on the West Branch, excepting twenty six miles! The canal trade there, will be only from Northumberland to Lewisburg and Milton, twelve miles. The coal region, and the iron works, are from fifty to one hundred miles higher up, and the timber, grain, and other products, are chiefly, far above the canal. When once freighted, the arks will float down safely, with the current, fifty miles a day, with fifty or sixty tons, in the care of three or four idle, merry men, as far as the confluence. To break up their arks and rafts here, and tranship their contents into canal boats—then draw these boats up the canal twenty miles to Catawissa,—then pass them in the river, and across to be unloaded and transferred to the rail road,—were altogether such a wasteful complication of expense, labour, time, and travelling, as to forbid the attempt without indispensible *necessity*. The West Branch trade is necessary, it is evident, to a rail road, but there is no necessity of the Catawissa rail road for the W. Branch trade.

The magnitude of the approaching W. Branch exports has not been fully appreciated. In the spring of 1826 it was valued at twenty nine thousand nine hundred and seventy tons, and the Penn's creek exports eight thousand tons, together, thirty seven thousand nine hundred tons, nearly all agricultural. (*b*) This does not include the mineral products, without which, neither our Canals nor rail roads can display their highest utility. The furnaces, rolling mills and forges of Centre, Lycoming and Union counties transmit, by their large navigable streams, their great and increasing products to the W. Branch Sunbury basin, whence, at present they proceed to Baltimore, hazarding the rapids below the confluence, because there is no other outlet.

The bituminous coal of the West Branch, a material for transit of incalculable value, has hitherto attracted but little attention. It ranges across the river, about seventy miles above its junction with the North Branch in positions very favourable for embarkation, and in fields of many hundreds of square miles. Its extent, renders it absolutely inexhaustible, and in quality, it is so greatly superior to the Richmond coal as to command a price from thirty to fifty per cent. higher.

Although the hard stone coal of Luzerne, after a long conveyance will not sustain a competition at Philadelphia with the coal of the Schuylkill, Mahonoy or Shamokin, the bituminous coal of the W. Branch, will compensate for transportion. The purposes for which it is used are different from the *domestic* anthracite; it is an article of *necessity;* and the demand will increase, as manufactures and the use of steam power increase.—From Lycoming creek, Pine creek, Lick Run, Tangus Cootack, and from Clearfield, many thousands of tons may be delivered in the Sunbury Basin, at less expense than is generally apprehended. Here it would follow the Central rail way, supplying all demands in its course, and right and left to Philadelphia, and arrive there at a cost of five or six dollars per ton.

There appears, therefore, to be little hazard in asserting, that the iron and bituminous coal trade of the W. Branch would raise contributions to a rail road in a few years, considerably above those of the N. Branch. But a rail road at Catawissa would neither excite those mines into extensive operation, nor, if excited, facilitate their transit to market. Their products would go *down stream* to Baltimore,—not up stream to Catawissa.

The *lesser utility* of the Catawissa, compared to the Central route, more clearly appears from the fact, that it would be wholly unavailing to the valuable mines of Shamokin and Mahonoy. This *indisputable* truth, has already been briefly noticed. The nearest and most practicable way to Catawissa for the coal of these mines, would be to Sunbury, 26 miles (from the *centre* of the coal fields) and then up the river or canal to Catawissa 22 miles more! It has been insinuated, that N. E. of the centre turnpike, in Northumberland and Columbia counties, abundance of fine coal is found, on the Mahonoy, especially, which might be conveyed to the Catawissa rail road. This suggestion, upon the most respectable authority, and from familiar topographical knowledge, is positively averred to be *groundless* and *fallacious*. There is an extensive and valuable coal field there, but it cannot enter the projected Catawissa rail way, without transportation up hill a great distance, —from twenty to thirty-five miles,—and completely ascending to the top of the Broad mountain! Upon this great coal range, therefore, susceptible of easy descending conveyance to the Central rail way, the Catawissa rail road would produce no effect.

The absolute *inutility* of the route last proposed by Catawissa to all the towns, mines, and improvements on the Schuylkill navigation, above the mouth of the Little Schuylkill, is a matter deserving of serious consideration. The trade, travelling, intercourse of every kind, between that *circle*, truly a *circle of wonders*,—and the Susquehannah, would surpass present conception. Who would have dreamed, only three years back, that at this time the revenue of the *Pottsville Post Office*, would be next to Philadelphia and Pittsburg, and *third in amount in the State!* Create a few Pottsvilles in Shamokin and Mahonoy, and the *talisman of a rail way* would instantly call them forth—and what would be the intercourse, the trade, in and around them; Eastward with Pottsville and her associates, and with Philadelphia,—Westward with Sunbury, Northumberland, Danville, Lewisburg, and Milton; the fertile valley of Penn's creek, and the coal region of Lycoming? At the W. termination, the beautiful basin or harbour at Sunbury receiving the two great branches;—the amount of industry and commerce which would be created every where around; the effects upon the whole line, and at, and around Pottsville; the effect upon the Schuylkill navigation, sixteen miles of it included by the Catawissa route to Port Clinton; all decide against the utility of that course, compared to the central or Shamokin route.

What has the Catawissa to promise, in exchange for such certain and enormous sacrifices? Some part of the North Branch trade she proposes to stop as the canal on the other side, or the swift current of the river sweeps it on to the Sunbury basin. To descend by the river channel to the Danville branch road, is but six miles of smooth water, at an expense of one-fifth of a cent per ton per mile, whence the distance to Pottsville is seventeen miles less than at Catawissa. Descend to Sunbury, in a smooth stream at the same rate, the distance is eleven miles less to Pottsville than from Catawissa. To take the Wyoming coal either from arks or canal boats, and send it *thirty-four miles* to the top of the Broad mountain, itself a mountain of superior coal; and then thirty miles further to Port Clinton, were too preposterous to propose. And to convey coal from the Broad mountain to Catawissa for the river trade, would be twenty-two miles further from the tide water of the Chesapeake, than at Sunbury.

(*b*) See proceedings of rail road Convention at Sunbury, January 20, 1819, and of Philadelphia meeting, February 16, 1829. [See Register vol. 3, p. 133.]

Then, as regards the great, paramount test of *utility*, the claims of Catawissa totally fail. By that route the whole West Branch commerce, with all its iron and coal, *is lost* to the Schuylkill and to Philadelphia; the mines of Mahonoy and Shamokin *are lost;* the equivalent exchanges of merchandize passing upward; the travelling and intercourse to and from the centre of the state; the commerce of Pottsville and its environs; and sixteen miles of the Schuylkill navigation are *all lost*. A project so palpably irrational, utility so inferior, fallacious and unproductive,—are certainly sufficient for a total condemnation. That this rail way would obtain a fifth of the toll, trade and travelling, of the Central road, may reasonably be doubted.

By that every pretence or claim may be examined, we are to inquire further the merits of the routes as regards *distance and expense*. In these points the reports of Mr. M. Robinson, dated December 4, 1828, shall be the guide, so far as appropriate particulars are stated. It is regretted that his estimates, then unfinished, as he states, and additional distances, are not given. [*Jour. H. Rep. Note* 1028-9-*p.* 316--326.] & *Reg. vol.* 3-*p.* 54.

By that report (page 325) the distances from *dam no.* 1 of the Schuylkill navigation, are as follows: Dam No. 1 being about one mile below the W. limits of Pottsville; that mile is substracted in the preceding statement of distances.—The differences are still the same.

To the river at Boyd's mill near Danville, according to the route	*m. ch.*	*m. ch.*	*Deduct one mile.*
prescribed,	40. 72½ or	44. 17	39. 72½ or 43. 17
To Sunbury, according to the route,	46. 25½ or	49. 76	45. 25½ or 48. 76
To Catawissa from the same point,	58. 13		57. 13.

Thus the Catawissa route is longer than by the Shamokin and Danville branch road to the river, by seventeen miles, twenty and a half chains, by one route, and by fourteen miles, less four chains by the other.

Difference	17. 20½ or 13 76
And the Catawissa route is longer than the route to Sunbury by	11. 71½ or 8. 27

In expense, by Mr. Robinson's estimate the shortest routes would be, for Danville one hundred and ninety-four thousand three hundred and ninety-three dollars, *less than Catawissa.* $194,393

And for Sunbury, (as above) about one hundred and thirty-one thousand dollars, *less than Cattawissa.* 131,000

As regards *distance & expense* therefore, on this route, Catawissa fails greatly in the comparison.

The route recently contemplated, it is understood, is to proceed from Catawissa to the summit of the Broad mountain as before 34 *miles.*

Thence to Tamaqua 8 or 10 miles, say	9
Thence to Port Clinton, (See Miners' Journal 20th Nov. 1830. - - -	21
	64
Thence to Philadelphia about - -	92
	156
Danville route 40½ " to dam No. 1." and 108 - - - - - - -	148½
Difference in favor of Danville - -	7½
Sunbury route 46 to dam No. 1 - -	154
Diff. in favor of Sunbury	2

Here again, even by the Little Schuylkill, distance is against the Catawissa route. It is nine and a half miles nearer from Sunbury to Philadelphia, than from Catawissa to this city.

If it be said that, already twenty-three miles up the Little Schuylkill is located and constructing by able capitalists, this avails nothing to Catawissa. It is in fact so much the worse for her. Here is a prior, legal right; an occupancy of the course by a prior chartered association, which possesses the superior power and exclusive jurisdiction. Were the road completed, it were not for Catawissa. She dare not invade the chartered rights of others. She must submit to their jurisdiction, bye-laws, tolls, and imposts. If the Little Schuylkill company find their road lucrative, *they*, not Catawissa, will reap the emoluments. If it be unproductive, and Catawissa be admitted to a participation, she is to lose and not to gain. If the stock and trade be good, bad, or at par, and Catawissa propose to obtain an act of assembly, raise stock, and construct a road, forty three miles to Tamaqua, to unite there with the Little Schuylkill company,—still, she is there met by another power;—prior, superior, independent, ready to control and direct her progress. And, to leave no excuse or device unanswered, suppose again, that the Little Schuylkill company had amended their charter, and Catawissa had joined them, in all respects as an association,—what would the Catawissa route gain by the union? The expense of the Little Schuylkill rail way, it is supposed when finished, will be 250,000 dollars with wooden rails, or 400,000 dollars if finished with iron rails. Of this burden, Catawissa must bear her full share.

The expense of a rail way, down the Catawissa valley, is *unknown;* but it is *known* that, a large portion of the line follows the *trough* of the stream through a ravine walled with rock. Those who assisted in the survey stated, at the time, that, for long distances they waded in the creek, because there was no margin for a foot hold, between the water and the precipitous rocks, confining it on either side.

What pretext then remains to be urged for the Catawissa route? Only its fitness for *locomotive power;* and it is estimated that as regards *inclined planes*, it has some little advantages compared to the central route.

The excellence of locomotive engines in *their proper places* is fully admitted, but is the Catawissa creek such a place. 1st. The trade and tonnage must be *great* and *regular*. The Catawissa route will possess neither. It has been fully shown that, compared to the central road, its *utility* and trade would be insignificant. Aware of this, Mr. Robinson's report proposes a *single line*. Were it supplied with two thousand tons per day, as between Manchester and Liverpool, locomotive power would be applicable. For such power the trade must be steady and uniform, in some reasonable degree; but what can be more irregular than the Susquehannah trade? Two or three times a year, in freshets of a few weeks duration, but principally, in one spring freshet, nearly the whole produce of the Susquehannah vallies is hurried down by its current, to the confluence, and very little is done in the intervals. Steam power will not accommodate itself to such irregularities. That power must have *exclusive* occupancy of the road. There can be no divided dominion where "unconquered steam" obtains possession. Put a hundred horses on the line with it, carrying coal at three miles an hour, and passengers at ten, and the catastrophe would be more terrific, than the breaking of Mr. Huskinson's leg!—Neither the laws of our state nor the public feeling, nor the general convenience, would permit such a total monopoly upon a great thoroughfare.

"The advantage of the locomotive engine, over the horse, is little or nothing when we work with low velocities."

"On the Branton & Shield's line, horse power is found to cost 45-100 of a penny or very near a half penny (sterling, 837-1000 of a cent.) per mile, per ton, travelling two and a half miles per hour." *(a)*

On the Schuylkill Valley road one horse draws ten tons.

NOTE (*a*)—J. Walker's report on stationary and locomotive power, 2d ed. 1829.

On the Schuylkill West Branch road one horse draws twelve tons.

For horse power, and public accommodation, the central rail way is peculiarly adapted. The Susquehanna river trade, the canal trade, and that of the Schuylkill, are locked up by frost in the winter; and as the drivers and horses on the rail way must be employed, and the coal and other products cannot pass off by water, they are greatly accumulated against the spring, and ready for the navigation. Then a great proportion of the labourers and horses may be conveniently detached from carting coal, and employed in the transportation of the Susquehanna produce to the Schuylkill, carrying back lesser loads of merchandize. When, thus, the pressure of the spring commerce is reduced, a part of the wagons may return again for the summer, to the usual coal conveyance.

Were locomotive power fit for an irregular and fluctuating transportation, the central line possesses preponderating reasons for its adoption there, in preference to that of Catawissa. Of this M. Robinson says, "for a rail road which would be a common highway, and on which horse power would be employed, its advantages in this respect (locomotive capability) would not compensate for its increased length."

"Fixed steam engines," says Mr. R. "when a trade is sufficient to justify powerful machinery, and to keep it constantly employed, diminish in a very large proportion, the cost of overcoming ascents. Were the business of a rail road considerable enough, they would like wise present a far cheaper power than either locomotive engines, or horses, for overcoming the resistance produced by friction."

"There is some difference of opinion as to the relative cost of transportation by locomotive engines, and by horses; and the problem is complicated by the necessity of incurring an increased expense in the construction of rail ways on which locomotive machinery is proposed."

Where, and when Catawissa is to obtain the immense business to justify this *increased expense*, it is difficult to discover. That the expense must be much greater than usual, to construct a road of such solidity, as to resist the weight and force of steam engines and their trains of wagons, is evident.

Some unimportant advantage is supposed to exist, in favor of the Catawissa route, from the inclined planes required in the central route, as if the former were so gentle in graduation as to require none. This is just as true, as the gross misrepresentations about the comparative shortness of that route. What says Mr. Robinson?

After tracing the Catawissa route to the most depressed point, between the Little Schuylkill, and the South branch of Catawissa, his words are these: "*Here it must descend six hundred feet by inclined planes in something less than four miles!* After which, it would be carried on a descent, commencing at 27½ feet per mile, and gradually diminishing to 13 feet per mile, at the end of 19 miles further." On the Central route, by one line, a descent of 750 feet, and by the other a descent of 705 feet is required, which is affected by inclined planes, 485 *feet, and* 200 *feet more by a graduation of* 30 *feet per mile.*" Thus the inclined planes of the Catawissa line, descending the mountain, include one hundred and fifteen perpendicular feet more than those of the central line. Besides, "the point at which this line crosses the Broad mountain is believed," says Mr. Robinson, "to be *the only one* by which the valuable bodies of coal between the head of the Mahonoy, and its tributary, the Shamokin, could be commanded." Between the Mahonoy and the Shamokin there is another rise where inclined planes are required, but there is reason to believe the elevation there, and that of the Broad Mountain also, may be much reduced by further examination.

AMICUS VERITATUS.

No. V.

4th. *Is it expedient now to subscribe the stock and commence operations for the Central rail road?*

This inquiry assumes as established, that the work is expedient, if so, the reasons are cogent for *immediate operations.*

The zeal and activity of the citizens of Baltimore, to secure the great commerce of the Susquehannah, is too well known to need further proof than that which has been already exhibited. The determination of the people in the centre of our own state, and thence to the New York line, to submit no longer to the present state of conveyance to market, is also notorious. If Philadelphia do not efficiently aid in opening an avenue to the Schuylkill, those two bodies will unite, and cordially co-operate in every means of delivering the trade of this river into the possession of Baltimore. Acts of incorporation *must*, and *will* be made to them; their rail road will be accomplished under their charters, the improved navigation of the Codorus, we see is, at this moment, advancing; and if proportionate efforts are not used by Philadelphia, a firm alliance will be formed which she will never be able to sever.

Our improvements in the river channel, for so many years, and at so much expense, obviously serve only to clear the way to Baltimore; and even our "Pennsylvania Canal," with its three extensive ramifications, conducts its commerce directly to *York Haven.* This port of deposit and export, for Baltimore, is 12 miles nearer to her than to Philadelphia, and the enterprizing Marylanders publicly avow—it is on the records of our legislature—that they "have nothing in fact to do but to take up the work, where we leave it, and to finish at a *trifling* expense, a great line of internal communication, which the exertion of their spirited and enterprizing neighbours have conducted within their reach."(*a*)

That expense which Baltimore justly regards as "*trifling*" for the object, is about the amount liberally estimated for constructing the proposed rail way. It exceeds five hundred thousand dollars, but this is a work which will not conduct our millions of property "within their reach."

Reposing faith and confidence in the liberal spirit of Philadelphia capitalists our citizens have forborne to aid Baltimore; but they will wait no longer. Another session of the legislature will not pass over without unequivocal measures, unless decisive steps are pursued by Philadelphia. The dams of our river hasten "the crisis," for they aggravate the obstructions, and urge the necessity of another channel below the confluence.

The respectable meeting in Philadelphia, of 16th February, 1829. responds with great propriety, to the good wishes of our citizens; in the following language: "In conclusion, we cannot refrain from adverting to the very liberal and flattering preference, which our fellow citizens in the interior, have shown for this, their own metropolis, over that of a neighbouring state, as indicated by a recent vote in the legislature of our state, upon the application of the citizens of Baltimore to make a rail road from the Susquehannah to that city. But it cannot be concealed, that the vote of preference was given under the belief that Philadelphia would exert herself to open every advantageous avenue to her market. Should this just expectation be disappointed it may require a re-action, and cause those who relied upon it, to throw themselves into the arms of their second choice, which we know to be Baltimore. In addition, therefore, to the obvious dictates of their own interests, Philadelphia is pledged to do all that in her lies to meet the favorable advance now made to her."

It were a mockery for our own city to ask the interior to make this improvement. She well knows that the wealth there, is not to be found in stock, nor great pecuniary aggregates. It consists in lands, houses, and

NOTE (*a*) Mr. Duncan's report in Senate, January 17, 1829. See Reg. vol. 3, p. 85.

productive labor, diffused through a thousand little veins, none of which can part with much, without distress The slender surplus go to the village merchant, and from him in large contribution to the city, where enlarged commerce, and accumulated capital, enable the affluent, by uniting, to accomplish magnificent improvements, and enjoy all the blessings of earth from the products of invested capital. They, and *they only*, can accomplish this enterprize.

Is it not then, made manifest, that a just regard to *past considerations*,—to her *present* extensive manufactures and commerce;—her *future* great and permanent prosperity—to the impulse of honor, and of honourable competition, the sagacious calculations of a wise and fair policy and the productiveness of capital stock; all unite in the call upon our "own metropolis," to move *immediately* in the grand work. Here *nature* has done so much in advance, that comparatively, little is left for *man*. The simplest means offer him the most *momentous results*. She has sent forth the Schuylkill from the Broad mountain, a hundred miles, to cut a passage through every barrier to Philadelphia; *and it is done*. She has poured forth from the West and the North, the far and wide winding Susquehannah, to gather from fourteen millions of acres the riches of the soil, and the treasures of the mine, and conduct them safely to our great reservoir; *and it is done*. There nature, and wisdom and beneficence call upon man to sunder the isthmus, to level the avenue for their millions of wealth to pass to the great City on the Delaware;—let her say, *now* or *never*,—"IT SHALL BE DONE!"

—

The annexed statement does not aspire to the title of a *Statistical table*. It is an attempt to present an *abstract* of the facts exhibited in the *second* division of these remarks, and to approximate to a just result.

I. *Estimates of Value of the Susquehannah Commerce,*

1st. In 1817, from 29th March to 26th June, passed the York Haven Canal, wheat, flour, whiskey, pork, iron; &c.		$340,000
		5
(*a*) Supposed to be about one fifth of the whole passed in that time,		1,700,000
Add for the residue of the year one tenth,		170,000
		1,870,000
Since the year 1817, 13 years, during which the property has doubled,		1,870,000
Estimated present value, upon these *data*, three millions seven hundred and forty thousand dollars,		3,740,000
2d. (*b*) In 1827, from February 23d to 23d June, there passed Harrisburg, rafts 1681, 40,775,000 feet of boards, &c. value		$244,650
Arks 1870, of these 1170 were flour, &c. value		2,340,000
and two hundred coal, 6,857 tons,		55,000
300 keel bottomed boats, each 800 bushels wheat,		240,000
		2,879,650
Increase to 1830, say 7 per cent per annum, 3 years,		201,575
Estimated present value upon these *data*, three millions, eighty one thousand, two hundred and twenty five dollars,		3,081,225
3d. In 1829, Judge Scott's estimate,		
Arks arrived at Port Deposit, 1500		
do. sold above Port Deposit, 500—2000		
Lumber annually descending,		
Feet one hundred and seventy five millions,	1,750,000	
Total value of property descending the Susquehanna, four millions and an half.	4,500,000	
Add and average these three estimates viz:		
Mr. Niles',		3,740,000
Baltimore Committee,		3,081,225
and Judge Scott's,		4,500,000
Aggregate of the three,		3)11,321,225
Average value of the three estimates of property descending the Susquehanna at present, (dropping fractions, three millions, four hundred and forty thousand dollars,		4)3,440,000
Baltimore profits of this, (besides profits on merchandize exchanged,) 25 per cent,		860,000
Of the above average, about one fourth probably, is not receivable at the confluence of the two branches, which deduct from		4)3,440,000
		860,000
Value of the trade brought annually to the Sunbury basin,		4)2,580,000
Profits on it 25 per cent per annum,		$645,000
Suppose but half of this to be secured by the Central railway, therefrom deduct half,		1,290,000
Half for the rail way to Philadelphia,		4)1,290,000
Value of the profits 25 per cent per annum,		$330,000
Add profits upon other commerce than the above Susquehanna commerce, including, increased W. Branch trade in coal, iron, &c. and intermediate trade from Sunbury and Danville to Pottsville,		170,000
Total profits of commerce by the Railway,		$500,000

II. *Estimate of Tonnage and Profits, of the Central Rail Way.*

1827. *Estimate* of trade stopping at York Haven, *by the Balt. Comm.*, 200 arks of coal, each 55 tons,		11,000
1170 arks of flour, whiskey, iron, &c. 468,000 bbls.	41,785	
300 keel boats, each 800 bushels wheat, 35 bushels per ton,	6,857	
1631 rafts, each 25,000 feet, 40,775,000 feet, 1500 feet per ton,	40,775	
		100.417
1829. *Judge Scott's* estimate, besides rafts, is	100,000	
Rafts he estimates at 175 million feet, say	116,000	
		216,000
Aggregate of both		2)316,417
Average estimate of tonnage,		158,208
Increase two years, at 7 per cent to 1830,		11,074
Present estimate of tonnage at York Haven,		4)169,282
Deduct a fourth for what is not receivable at Sunbury,		42,320
Suppose but haf of the residue stopt at Sunbury,		2)126,962
		63,481
Tonnage for the Central rail-way, from the *present* trade. say		63,000

(*a*) Niles' Register, v. 12, p. 159.
(*b*) vide report of Baltimore Committee.

But, the coal trade of the river is only in its infancy. Last spring from the West branch alone, bituminous coal was sent, 15,000 tons,	
The coal tonnage of the West Branch for the first five years, were the rail way opened, might be reasonably averaged per annum at 50,000 tons; say half for the rail way,	25,000
The coal mines of Shamokin and Mahonoy, as above, 100,000 tons but as this would travel but half the rail road distance, say as equivalent to the whole distance,	50,000
Trade created in all other materials, iron, lumber, &c. on the line, say 20,000 tons, half distance as above,	10,000
Descending trade,	148,000
The return trade at Pottsville, is about *one fourth* of the descending. The return trade to Sunbury, for the extensive country to be supplied, would probably be much greater. Say ascending tonnage a *third* of the descending,	49,333
Total rail way tonnage per annum, for the first 5 years, Tons.	197,333
Which at 1 cent per ton, per mile, for 46 miles, is	$90,673

Or, upwards of 14 per cent on the capital required by Mr. Robinson's estimate, viz: $626,611 for both roads, and all expenses.

There is in the final result, a striking coincidence between the above and the estimates of the respectable meeting at Philadelphia, February 26, 1829, which was 82,750 dollars; or upwards of 13 per cent.

The Baltimore Committee estimated the receipts of their rail way, from York Haven, at upwards of 156,000 dollars.

It is conceived impossible for any reflecting and calculating man, with the evidence of this gigantic, and augmenting commerce before him, to give it due consideration, and then doubt that a rail way, offered to it, at the confluence of the two branches, would produce annually, for transportation, eastward and westward, thirty seven thonsand six hundred dollars. It must do more, before it is *one year* finished. Verily more, but even that sum is six per cent upon Mr. Robinson's liberal estimate of 626,611, for both roads, of fifty five miles. It is not presuming too much to estimate the first two years, at sixty two thousand six hundred, or *ten per cent* npon the whole capital invested, admitting the expense not too highly estimated. In five years more the trade and travelling would be doubled, and the profits of course, be doubled.

AMICUS VERITATIS.

Extract of a letter from a highly respectable and intelligent gentleman, long a resident of the western part of the state of New York, received by General Daniel Montgomery, since his arrival in this city.

"The counties in New York which touch on the Penna. north line, are Delaware, Broome, Tioga, Steuben, Allegheny, Cataraugus, and Chataque.

The east branch of the Susquehanna separates Delaware from Otsego county, bounding the former on the north, and the latter on the south, thus furnishing an outlet for the transportation of produce from both. Following the river, we find it then passing the corner of Chenango county, and entering Broome at Harpersville, which is about 13 miles from the Penna. line. At Binghamtown, which is the county town of Broome, it receives the Chenango. Binghamtown is seven miles from the Pennsylvania line. The contemplated Chenango canal to intersect the Erie canal at Utica, terminates at Binghamtown, 90 miles from Utica. This canal passes through the rich counties of Chenango, Madison and Oneida, being intended to run for a great part of the way parallel with the Chenango river. The Chenango river is now used for better than 40 miles to transport produce. The arks and rafts are annually descending this river; and its tributaries to Baltimore more in number than persons who have not lived in the vicinity, would easily credit. These added to what descend the Susquehannah, (both rivers uniting as before stated at Binghamtown) support an immense population. The principle article is lumber, of which the finest quality is found in this region. There are, however, other articles exported, such as potatoes, whiskey, &c. To these many other articles would be added, were there a direct communication with Philadelphia. The market of our villages in the interior of this state, would to a certain extent be supplied from that district. Courtland county also serves some of its productions by means of the tributary waters of the Chenango down the Susquehannah. Going due west from Binghamtown, we pass through flourishing towns on each side of the Susquehannah, till we reach Owego, 8 miles from the Pennsylvania line. This is in Broome county, and is about 18 miles from Tioga Point, in Pa. The produce which passes down the Susquehannah by Owego, is immense; great quantities of plaster are brought from Ithaca, in Tompkins county, to Owego. Ithaca is 29 miles from Owego, between which places a *rail road* is contemplated, a company being already incorporated. Tioga Point is 4 miles south of the N. Y. line, whence to Newtown or Almira is 13 miles. The Chemungo canal terminates at Newtown, and the Chemungo river connecting this canal with the Pennsylvania canal. The Chemungo canal connects Seneca lake with the Chemungo river and Pennsylvania canal. On the Seneca lake is a steam boat which plies between the flourishing village of Havana at the south end of the lake, and the large and wealthy village of Geneva, in Ontario county at the other end of the lake. This lake is about 45 miles long, lined on either side with villages. The country all around it producing incalculable quantities of wheat, and of as fine quality as is raised any where in western N. York. From Geneva, the *Seneca Canal* starts, and intersects Cayuga Lake and the Erie canal at Montezuma, 20 miles long. Leaving New-town or Elmira, going west, we pass over the celebrated TIOGA FLATS, a vast body of land, equal to the Prairie lands in Ohio, and lying within six miles of the Pennsylvania line, and come then to the town of Painted Post and Irwin, and so on to Bath in Steuben county.

Elmira or Newtown is situated about 5 miles from the Pennsylvania line, in the midst of an exceedingly rich county. The country between Seneca and Cayuga Lakes, is surpassed by none in the state of New York, for fertility, it is a perfect garden; from which, by means of the Chemung canal, the products could find their way to Philadelphia as easily (if not more so) as they do to New York, were the proposed rail-road constructed from Danville to the head of the Schuylkill navigation at Pottsville; as may readily be seen by a reference to the map.

—

PHILADELHHIA, DEC. 15, 1830.

To General Daniel Montgomery, Hugh Bellas, and John C. Boyd, Esquires.

Gentlemen—Deeply interested in, and anxious for the prosperity of the state of Pennsylvania, and of the city of Philadelphia, our attention has been attracted to the proposed rail-way from Pottsville to Danville, and Sunbury; by which a full proportion of the productions of Pennsylvania, and of parts of New York, lying on the branches of the Susquehanna, may be advantageously brought to the market of Philadelphia. Your perfect acquaintance with the facts intended to be elicited by the enclosed queries, has induced us to address them to you, for the purpose of obtaining information of the

highest importance to the State and the city. We ask your early attention to them. We are, very respectfully, your ob't. servants.

JOHN SERGEANT,
CADW. EVANS,
MATHEW CAREY,
PAUL BECK, Jr.
B. W. RICHARDS.

—

QUERIES *proposed to the Susquehanna Committee.*

1 What is the distance up the *west branch* of the Susquehanna, and its tributary streams, from which boats and arks are navigable to Sunbury?

2 What is the distance up the *west branch* of the Susquehanna and its tributary streams from which boats and arks are navigated to Sunbury?

3 What are the computed number of acres in the basins of the *north* and *west branches* of the Susquehanna respectively, and what is the amount of the population on the same?

4 What is the cost of transporting bituminous coal per ton, lumber per M.; wheat per bushel, flour per barrel; iron per ton; from the points of departure, on the north and west branches, to Danville or Sunbury?

5 What is the price now, and what has been the average price for the five years of wheat per bushel; flour per barrel; lumber (white pine) per M. at Sunbury and Danville?

6 What has been the estimated qauntity of lumber, specifying the kinds brought down the north and west branches of the Susquehanna, annually during the last five years.

7 What has been the estimated quantity of iron, wheat and other agricultural products brought down the branches of the river, during the last five years?

8 What quantity of these articles, do you estimate will be carried on the central rail-road?

9 What will be the cost of the transportation of the articles named, the toll included, to Pottsville? What to Philadelphia?

10 What is the character of the lumber of the Susquehanna comparing the same with that of the Delaware?

11 What will be the cost of conveying a bushel of wheat and a barrel of flour from the Geneva Lake, in the state of New York, to the confluence of the branches of the Susquehanna, and thence to Philadelphia, by the central rail road and Schuylkill navigation? What is the cost of transporting the same articles from the Geneva Lake to the city of New York, by the New York Canal and the Hudson river?

—

PHILADELPHIA, Dec. 16, 1830.

Gentlemen—Your letter of yesterday, on the subject of the commerce of the Susquehannah, has been received with much satisfaction, and is answered with perfect cheerfulness. Considerable time and attention having been devoted to the trade of that river, we do not reply inconsiderately, nor without feeling some degree of responsibility; but, fully convinced that nothing is wanting in our great city except a moderate share of attention, to ensure to her the transit of an immense internal and reciprocal commerce, which, at present, either passes out of the state, or awaits her enterprize to call it into existence, we are gratified by the inquiries you have done us the honor to propose. Accurate statistical registers of the Susquehannah trade, and the country which it waters, comprehending *fourteen millions of acres* at least, and a population exceeding *five hundred thousand persons*, will not be expected, for such do not exist. Such facts, estimates and results, however, we now submit, as will enable any person who bestows upon them the proper attention, to form a just opinion of the magnitude of the subject. In every particular they do not pretend to be perfectly correct; but we are well satisfied that they are so far *substantially* right as to lead to just conclusions.

Gentlemen with great respect, your obedient servants.

DANIEL MONTGOMERY,
HUGH BELLAS,
JOHN C. ROYD,
Committee from the Susquehannah.

To John Sergeant, Cadwalader Evans, Mathew Carey, Paul Beck, Jr. Benjamin W. Richards, Esquires.

—

Answers by the Susquehannah Committee,

Answ. 1. From Sunbury, upwards, the North Branch and its tributaries are navigable about two hundred and sixty miles, embracing a large, fertile, and populous portion of the state of New York.

2. From Sunbury up the West Branch, about one hundred and forty or one hundred and fifty miles.

3. The two branches water about *fourteen millions of acres*, of which about nine millions are in the basin of the North, and four millions in that of the West Branch. Their *population* is estimated, including that part of New York intersected by the North Branch, at *five hundred thousand.*

4. "The cost of transporting coal, iron, lumber," and other products down to Danville, and to the Sunbury basin, at the confluence of the branches, is there well known by long experience; and is greatly below the opinion generally entertained elsewhere. Down to Sunbury the navigation is safe and easy, cheap arks and little pilotage are required, three, (sometimes four,) may guide an ark, carrying sixty tons, or more, with very little labour, fifty miles per day, floating with the current. To answer this inquiry fully, and satisfactorily, particulars must be detailed.

The *average* distance of the bituminous coal fields of the West branch, may be fairly placed at ninety miles above Sunbury; from which centre the expense of transporting coal to the confluence is about two and a half cents per ton, for the whole distance of ninety miles. Thus:

3 men descending 50 miles per day, say two days	$6 00
3 returning 2½ days each	7 50
For an ark load of 60 tons, 90 miles	13 50

Or, 22½ cents per ton, which is ¼ of a cent per ton per mile.

If the distance be greater add ¼ of a cent per ton per mile; if less, deduct at the same rate.

From the confluence, up the West Branch the distances are nearly as follow:

To Lycoming county, where the first coal would be received	miles 40
To Pine creek, coal again received	57
To Little Run, Coal mines about	70
To Clearfield Mines, from 100 to 140 say	120

The average distance, for the *Iron* of Lycoming and Centre counties may be stated at 65 miles. The Iron works of Union county, less than half that distance.

But, to ascertain the *whole expense* at the Sunbury Basin, the loss on the ark, and the expense of mining coal must be added. Let us trace a ton of this in its course to Philadelphia, and the cost will distinctly appear.

1 ark load,—60 tons, mining at 75 c. per ton	$45 00
Transportation, 90 miles (as above)	13 50
Loss on the ark on sale (built chiefly for branch navigation)	20 00
At Sunbury, 60 tons cost	78 50
Or one dollar and thirty cents pr. ton	1 30
Transhipment to the rail road, p. ton	10
Toll and traction to Pottsville, 45 miles, at 3 c. pr. ton pr. mile	1 35
Toll and freight by the Schuylkill navigation	2 25
Total expense of a ton of Bituminous coal, delivered at Philadelphia from the West Branch, 90 miles above Sunbury	5 00

The cost of transporting all other products to Sunbury would be nearly the same, saving 75 cents per ton for mining coal. Iron and lumber about the same as coal, the whole distance to Philadelphia. That is three dollars and seventy cents per ton from *Sunbury*. For other products—flour, pork, whiskey, &c. add one cent per ton, per mile, or, one dollar and fifty-three cents, for the higher toll, making five dollars and twenty-three cents for a ton of flour, or about thirteen cents per bushel for wheat.

The transit and prices of lumber delivered at Pottsville, and Philadelphia, would be these.

Prices of white pine boards at Sunbury.

	Freight & Toll.	*Philad.*
Pannel stuff—pr. M.	$9.—3 00—	12 00
First, or best common	6.—3 00—	9 00
Second or inferior common	4.—3 00—	7 00

That is, rail road 45 miles 1 35.
Schuylkill navigation 108 miles 2 25 pr. ton — 3 60
Or for 1000 feet 3 00 at 1200 feet pr. ton.

The expense of transit by the Pennsylvania Union, and Schuylkill canals—for 60 tons of flour	506 40
By rail road and Schuylkill canal	367 20
Difference in favour of rail road -	$139 20

The rest of transportation down the North Branch, 90 miles, would, of course, be the same as down the West Branch. The following would be the expense from Seneca Lake, in the state of New York, to Philade phia,

Flour per bbl. 354 miles . . .	67 cts.
Wheat per bush. same distance . .	18 2-3

By Danville, 18 miles less, and a proportional deduction in expense.

To carry that flour and wheat, from the Seneca Lake to the city of New York, would be about 30 per cent. higher; viz.

Flour, 360 miles, per bbl. . . .	87 cts.
Wheat, same distance, per bush. . .	22 3-4

The cost of transit by the Pennsylvania, Union, and Schuylkill Canals, to Philadelphia, for a bushel of wheat, from Sunbury and Danville, is about 21 cents, or 50 per cent higher than the Rail Road route.

5. The prices at Sunbury and Danville now, and the average for five years past, are about these.

Flour, per bbl.	3 25
Wheat, per bush.	68

Boards—White pine has been already stated.

6. The lumber descending the Susquehannah is well known to be as immense in quantity as excellent in quality. We shall not pretend to state the amount with much accuracy; but from such *data* as we possess, it is easy to show the quantity to be prodigious, and thus to approximate to a just conclusion.

A delegation from various incorporated companies, convened at Baltimore in August, 1827, the main object of which was to counteract the measures of our Legislature, tending to convey the Susquehannah produce to Philadelphia. Their mode of effecting this, was by a Rail Road from York Haven to Baltimore. They appear to have carefully collected information respecting the Susquehannah products, and state that the number of rafts which passed Harrisburg from the 28th February, 1827, to the 23d June, was 1631—and suppose each to have contained 25,000 feet. We are satisfied that they averaged about 40,000 feet each, or, in the whole, 65,240,000.

In the reports of the Board of canal commissioners, an estimate of Judge Scott is found, which states the amount of lumber descending the river annually, at 175,000,000 of feet. The average amount of these two estimates is one hundred and seventeen millions five hundred thousand feet; and this would appear to be a fair estimate for the last five years.

The sorts of lumber are, principally, white pine, in boards, plank, and scantling; white oak staves, heading, and scantling; white oak and hickory hoop poles; and poplar boards.

7. The Baltimore committee, to whom reference has just been made, state the amount of iron and agricultural products, which their rail way would intercept at York Haven, and transmit to the Baltimore market, thus:

1170 arks laden with flour, whiskey, pork, iron, &c.	Tons 41,785
300 keel boats, each 800 bushels wheat	6,815
	4)48,600
Deduct one fourth for what was received below the confluence . . .	12,150
Receivable at Sunbury by a fair estimate	Tons 36,450

8. Of the whole property, recently descending the two branches of the Susquehannah, it is deemed a reasonable and moderate estimate to say, that, one half, or about sixty thousand tons, beside Bituminous coal, would pass by the central rail road to the Schuylkill navigation. In this, are not comprehended the increasing, or prospective products, which would be attracted to the rail road at Sunbury, or spring up along the route.

9. The cost of transportation, from Sunbury and Danville, to Pottsville and Philadelphia, has been stated in reply to the 4th query.

10. The lumber of the Susquehannah is well known to be much superior to that of the Delaware, and surpassed by none in the United States.

11th and 12th queries have been answered to relying to the 4th.

To the President and Managers of the Schuylkill Navigation Company.

Gentlemen—As a Committee from the Susquehannah, on the subject of constructing a rail-road from Pottsville to that river, at Danville and Sunbury, the undersigned respectfully submit to your consideration the following inquiries.

As regards *ourselves, personally,* we have no doubt that the capacity of the Schuylkill Navigation will be greatly and efficiently enlarged, and we desire that the minds of all others may receive that conviction.

If reasonable assurance be given the capitalists and the public, that this navigation will be made competent to pass the tonnage from the contemplated rail-road, much confidence will be given to subscribers to the stock. With the purpose, therefore, of obtaining this assurance, so far as reason and propriety may warrant, permit us to inquire,

1st. Is it the intention of the Directors of the Schuylkill Navigation Company to proceed, as speedily as practicable, in the construction of *double locks*, throughout the whole course, and to introduce other improvements for augmenting the efficiency of the Navigation?

2d. About what period may the public expect those improvements to be completed; and what will then be the capacity of the Schuylkill Navigation Company for the transit of property descending and ascending?

The vital relation of these inquiries to the success of a central rail-way, from Pottsville to the confluence of the two great branches of the Susquehannah, and to the advancement of the Schuylkill Navigation, will apologize for the trouble given,

By your respectful
and obedient servants,
DANIEL MONTGOMERY,
HUGH BELLAS,
JOHN C. BOYD,

Philadelphia, Dec. 14, 1830.

Office of the Schuylkill Navigation Co.
PHILADELPHIA, December 16, 1830.

Gentlemen—Your favor of 14th inst. is received, inquiring our opinion of the capacity of the Schuylkill

Navigation, and of the intention of the Company, of doubling their locks, so as to facilitate the trade; and alsowhen this improvement will probablybe completed.

In answer to your inquiries, I am desired to say, that the stockholders at their last annual meeting, recommended to the Managers to proceed with doubling the locks in situations where they are now combined, and that a commencement has accordingly been made, and will go on without delay, in ample time to meet the wants of the trade in its progressive increase. Flat Rock locks are already in operation; at Laurel Hill, at the locks near Hamburg, and at those near Mount Carbon the new locks are so far completed as to warrant the belief that they will be ready to go into operation as soon as the trade opens in the Spring. At the locks on the Duncan canal and at the Mountain Dam, the work is going on, and those locks will probably be completed by the 1st of September. Some others will be put under contract and probably be finished in 1831, and the remainder as fast as the increase of the trade may call for it.

It has been calculated that the locks in their present state, will pass more than half a million of tons in a year. The facilities afforded by doubling the locks will more than double their capacity, as the boats ascending and descending will not interfere with each other; but making an allowance for a diminution of the trade during the extreme dry seasons, which are always experienced every year, more or less; for about six or 8 weeks; it will not be extravagant to say that 600,000 tons may be passed down the works in one season, and the same quantity back. This calculation is founded on the following statement, which is deemed to be moderate:

7 boats an hour for 15 hours in the day, will be 105 boats per day, at 25 tons each, are 2625 tons.

240 working days in the year will be 630,000 tons.

Every day adds to the solidity of the works, and, of course to their capacity; and it is therefore, confidently believed they will meet oll the demands of the trade. I am, gentlemen, very respectfully, your obedient servant. JOSEPH S. LEWIS, President.

Daniel Montgomery, Hugh Bellas, and John C. Boyd, Esquires.

The following Report of the Manual Labour Academy, at Germantown, will be found interesting, and we think exhibits in a very satisfactory manner the operations of that institution, since the last report. Its success thus far, must be a cause for gratulation to those who have had the management of its concerns—and the facts set forth regarding the salutary combination of labor with study, must tend to convince those, who before doubted the expediency of such an establishment —of its utility, and advantages. We hope its funds will receive such accessions as to enable the trustees to remove the debts with which the academy is at present encumbered—and afford an opportunity of proving by a fair experiment the excellence of this system of education.

REPORT OF THE MANUAL LABOUR ACADEMY

Of Germantown.

The Board, the past year, have had twenty-seven meetings, several of which have been held at the Academy, that each trustee might become personally acquainted with its condition. It has been chiefly occupied in making the institution more known, devising plans to obtain needed funds, electing new officers, introducing more system, effecting an insurance, and in improving the premises and rendering them more suitable for the objects of the institution.

In obedience to a resolution of the Association, two thousand printed copies of the first annual report, with a copy of the charter, have been extensively circulated. The favourable reception of the facts it contains, and the commendation of them by periodicals devoted to the cause of education, induce us to believe, that its publication has advanced the interests, not only of your institution, but those of others; and doubtless has, in part, excited to the formation of new ones, and made more manifest the benefit and practicability of the Manual Labour System.

The present report will afford, we trust, a complete demonstration of these two important points—the excellence and pract cability of this system. If so, your next board will need no other plea for aid. The institution is now precisely in that dangerous attitude of being regarded as established and not in want of more subscriptions to its funds; whereas, the subscribers to it do not exceed one hundred, while the number to a sister institution is eight hundred and eighty; and it is pressed upon by two loans, a note, and a mortgage, amounting to $7,086 52, of which $1,586 22, should now be paid.

But independently of pecuniary difficulties, the institution is in a prosperous condition. It now contains twenty three pupils, and an accession of ten is expected at the opening of the new term. The main building has been altered so as to accommodate thirty-seven pupils and a new work snop has been erected.

The farm also, during the last six months, has been under improvement. All the fences have been cleared of weeds and brambles; fifty loads of soil taken out from a principal drain; about one acre of wild swamp land flooded from an accumulation of soil on the margin of a brook, which runs through it, has been drained by several ditches, so as to afford a crop of buckwheat; four acres, at the north extremity of the farm, neglected for some years, have been fallowed, cleared, and sowed with wheat; and a half acre contiguous to the barn, has been enclosed by thirty pannels of post and rail fence, and converted into a very productive culinary garden.

It is here in place to state, for the satisfaction of the association- that cattle are much needed on the farm, and about 1180 bushels of lime, with 492 loads of stable manure; also, fifty-four days labour of one man, to move a brook bank; and thirty days labour of one man and two horses to drain a swamp for horticulture. These suggested improvements, with fencing for pasture lots and for a lane through the entire length of the farm, would put the farm in complete order.

Officers.

The institution has three officers, a principal, an assistant teacher, and a farmer.

In July, the Rev. George Junkin, of Milton, Northumberland county, was elected to fill the vacancy caused by the resignation of the Rev. John Monteith, and inaugurated as principal on the 19th of August. His duties are the general superintendance of all the operations of the institution, the exclusive exercise of moral discipline, affording religious instruction, conducting certain branches of weekly studies, and a special charge over the workshop.

Mr. James M. Ellis, who acted in April, to fill the vacancy of Mr. Burrough, has continued as the assistant teacher to the present principal.

Mr. Joseph Worrel has had the management of the farm since the 1st of April. The Board have contracted with him for one year; to unite with and direct the agricultural labours of the students; and to be allowed 125 dollars, with the use of a tenant house and a small garden for his services.

Under this government the institution has, the last quarter, been daily manifesting more economy and more system. Remove the debt on the purchase, and a loan of 850 dollars, and there is no remaining fear, that under Providence, your enterprize will be soon crowned with abundant success.

Pupils.

As regards the pupils who are now in the Academy, they differ from each other in almost every particular; their ages vary from fifteen to twenty-eight years. One is from Massachusetts, two from New York, two from

New Jersey, thirteen from this state, of whom nine are of the city. Seven of the pupils are beneficiaries, nine are supported by parents or guardians, and three are dependant on their own resources. With the exception of six of them, their constitutions are good. Three have been afflicted with intermittent fevers. But the complaints common to students—the effects of the studio-sedentary habit—do not exist among them. On the contrary, one, who entered sickly, has now health and strength; another who was so indisposed as to be unfit for labour or study, is now capable of both; and a third, who had dyspeptic attacks from study, now prosecutes it with manual labour and enjoys good health.

Fifteen of the twenty three have the ministry professedly in view.

The studies of these pupils are the same as in other academies or seminaries. But the hours of recreation are not hours of waste and idleness, and as it is too often of immorality. Four hours daily, at the least, have been employed in useful bodily labour by every student. And by the profits of this labour, they have not only, more or less defrayed their own expenses of education, but have established their health and increased their strength both of body and mind, and made them rejoice in both. Their skill has been called into exercise. They are becoming dexterous, as well as intelligent & moral. The head, the heart, and the hands are all educated, and the pupils thereby fitted for the vicissitudes of life, particularly so, if any of them be destined for our new settlements as Christian missionaries, and more particularly so, since now, no parent, by patrimony or influence, can secure the destiny of his son amid the turnings and overturnings of nations, and families and individuals. A complete education is the only sure rock.

TABULAR ESTIMATE OF 3 MONTHS MANUAL LABOUR OF THE STUDENTS.

STUDENTS.	Graduation of Labour	Weekly allowance on Labour	Weeks.	Quarterly allowance for extra Labour.	Total allowance for Labour.	Total charge for tuition, board, &c.	Cash charge.	Former occupation.	Age.	Constitution	Residence.
1	No. 1.	2 05	14	6 07	28 62	38 00	9 38	Coach-maker.	25	good.	Albany.
2		2 05	14	6 07	28 62	38 00	9 38	Carp'ter&Cabinet m.	19	broken.	Albany.
3		2 05	14	6 07	28 62	38 00	9 38	Waggon-maker.	28	good.	Northu'ld co.
1	No. 2.	1 75	11	1 75	21 00	31 35	10 35	Farmer.	22	not hardy.	Northu'ld co.
2		1 75	12	2 40	25 40	34 00	10 60	Merchant.	21	good.	Norristown.
3		1 75	12	1 55	22 55	34 00	11 45	Tin-worker.	22	robust.	Philadelphia.
4		1 75	12	6 16	27 16	34 00	22 00	Hatter.	25	not robust.	Lancaster.
5		1 75	12		19 25	34 00	6 84		24	robust.	Sunbury.
6		1 75	12	2 44	23 44	34 00	14 75	Lumber Trade.	16	good.	Philadelphia.
7		1 75	12	1 92	22 22	34 00	10 56	Farmer.	20	robust.	Mifflin co. Pa.
8		1 75	12				11 08	Farmer.	25	good.	New-Jersey.
1	No. 3.	1 45	14	1 45	21 75	38 00	16 25	C'erk in a Store.	18	robust.	Philadelphia.
2		1 45	12	1 18	18 58	34 00	15 42	Hatter.	15	good.	Philadelphia.
3		1 45	12	1 20	18 60	34 00	15 40	Farmer.	18	good.	New-Jersey.
4		1 45	10	1 45	15 95	30 00	14 05	Son of Hardware M't	15	not hardy.	Philadelphia.
5		1 45	14	52	20 82	38 00	17 18	Printer.	21	good.	Harrisburg.
1	No. 4.	1 15	12	93	14 70	34 00	19 30	Book-binder.	18	robust.	Albany.
2		1 15	14	1 30	17 40	38 00	20 60	Glass-cutter.	18	good.	Lancaster.
1	No. 5.	85	14	3 22	25 62	38 00	22 88	Son of a Merchant.	17	good.	Philadelphia.
1	No. 6.	55	12	00	6 60	34 00	27 40	Son of DryGood M't	16	delicate.	Philadelphia.
2		55	13	50	6 75	36 00	29 25		16	not robust.	Philadelphia
3		55	7	30	4 15	9 95	15 80		15	good.	Philadelphia.
4		55	14	48	8 18	38 00	30 18		15	good.	Philadelphia.
23		38 95	255	37 80	312 58	716 65	334 07				

A Table shewing the amount of Studies, &c. of the Students of the Manual Labour Academy of Pennsylvaniu, during the quarter ending Nov. 1, 1830.

STUDENTS.	Grade of attention and attainment.	Weeks at study...	Books. Virgil's Eneid.	Selectæ Profanis,..	Viri Romæ, pages	Historiæ Sacræ....	Adams' Lat. Grammar,.....	Valpey's Greek Grammar.	Euclid.....
	No. 1.	10	1¾	45 pag			twice		to 16 p
		11	1¾	16 pag			do		do
		12		45 pag			do		do
		11	1¾	16 pag			do		do
		12			36 p		do		do
		12			36 p		do		do
		11			15 p	20 p	do		do
		10		45 pag			do	¾	do
		12				40 p	do		do
		12				40 p			do
		12	1¾	45 pag				¾	do
	No. 2.	12		45 pag			do		
		12		45 pag			do	¾	do
	No. 3.	12				40 p	do		do
		7					½		
		12			36 p				
	No. 4.	12				40 p	twice		do
	No. 5.	12				40 p	do	¾	
		11					once		
	No. 6.	12			36 p		twice		do
		12		45 pag			do		do

Tables of Mental and Corporeal Labour.

The above tables which have been made out by the principal, shew, in a very satisfactory manner, the last quarter's progress of each pupil in his studies; and the extent to which they have paid their quarter bills for boarding, lodging, fuel, light and tuition, by their manual labour.

From that on the studies, it appears that three of the pupils, besides attending to the ordinary branches of an English education, and to psalmody and the daily reading of the scriptures, have recited sixteen propositions of the first book of Euclid, twice recited Adam's Latin Grammar, committed to memory three-fourths of Valpey's Greek Grammar, and read the first and three-fourths of the second Æneid of Virgil: that six of them have made the same progress in the Grammars, and in Euclid, and have read 45 pages in Selectæ-profanis: and four of them in the place of this Latin book, have read four pages of Historiæ Sacræ.

The same table shews also the scholarship of each pupil, in which 12 of them are marked No. 1, four No. 2 and 3, and five number 4. 5 and 6. In the table of labour, the pupils are also arranged into six classes, according to the value of their labour. And in separate columns, are stated—their weekly allowance for four hours of daily labour—their quarterly allowance for extra labour, their total quarterly allowance—the quarterly charge for maintenance and instruction, and the sum actually due from each to the institution.

For example, a pupil in class No. 1, aged twenty three years, formerly a waggon-maker, who in scholarship is also marked No. 1, and has read the first and three-fourths of second Eneid, the last three months, besides recitations in the Latin and Greek Grammars, Selectæ profanis, and Euclid; has a weekly credit of $2.05,—a quarterly allowance and for extra labour of $3.07,—and a total allowance of $25.62, which deducted from his quarter bill, ($31.37,) leave the sum only of $5.73 against him.

In this instance, manual labour has reduced the expenses of education and living, to one-sixth.—*Five dollars and seventy-three cents, with health-preserving exercise of skill and dexterity, pays three months boarding, lodging, fuel, light and tuition:* and places an indigent young man in the condition, which every generous pious youth would struggle hard for—that of owing no man any thing, but love.

In the second class are placed seven pupils, aged from sixteen to twenty-five years, only one of whom pays $14.75 on his bill, two of them $11, and three of them $10, which last reduces the bill to less than one-third.

In class No. 3, are five names, and the actual debt against them ranges from $15 to $17, a deduction of about one-half the charge.

The fourth, 5th and 6th classes together, contain seven pupils and the reduction varies from 27 dols. to 19 dols. 30 cts. on the 34 dollars.

The total quarterly charge against the twenty-three students is 719 dols. 65 cts. whilst the credit for labour is 334 dols. 7 cts.

Hence it appears, that twenty-three pupils, diversified as to age, constitution, previous habits and occupation, have, by manual labour, paid nearly one-half their expenses of education, also, that those pupils who have been most efficient in this reduction have been so also, in mental application and acquirement.

The labour on the farm and in the work shop are next to be presented.

Agricultural Labour.

The agricultural labour of the twenty-three students, from April 1st, to November 4th, has been estimated as equal to the full day's labour, for seven months, of three full hands, four half hands, and three quarter hands.

In April, about six of the forty-one acres were in wheat, seven in rye, fourteen in grass, three in fallow, and the rest in corn and oats stubble. At the present moment, five and a half have been sowed with wheat, seven with rye, seven and a half with clover seed; twelve are in pasture, two and a half in potatoes, one in garden and the rest in stubble and clover seed. The estimate of the crops is 300 dollars.

The items of work of each month is presented in the following table:

Agricultural Labour of twenty-three Students and Director for seven months.

April.
- 300 bushels of potatoes removed from the cellar of the main building to the farm.
- 6 acres sowed with clover seed.
- 2½ " planted with early potatoes.
- 7 " prepared for planting corn.
- 1 acre of wild squam drained.
- 8 acres of mowing ground picked and cleared.
- ½ acre ploughed for garden.
- 3 acres ploughed and sowed in oats.

May.
- 7 acres in corn, manured in the hill.
- 1 acre planted with potatoes.
- 40 pannels of four rail post fence built.
- Gardening.

June.
- 7 acres of corn hoed, harrowed, and dressed.
- 9 " of grass mowed and put in.
- 1 acre of potatoes planted.
- 2 gardens worked.

July.
- 3 acres of grass mowed and put in.
- 7 " of corn worked.
- 103 dozen of rye put in.
- 124 dozen of wheat put in.
- 1 acre of buckwheat sowed.
- 3 acres of oats cut and put in.
- ½ acre of turnip seed sowed.

August.
- 4 acres of fallow-ground cleaned.
- 5 " ploughed.
- Manure heaped to rot for seeding.
- Fences of all the farm cleaned:
- 3 acres of grasss, &c. mowed and put in.
- Rye, oats, and wheat threshed.
- Gardening.

September.
- 6 perch flint stone quarried and hauled 10 miles.
- 3 acres ploughed.
- Drain cleaned, and fifty cart loads of soil carried to the uplands.
- 7 acres of corn cut up and topped.

October.
- 13 " ploughed, and sown with winter grain.
- 9½ bushels of buckwheat cut and got in.
- Corn fodder off four acres, hauled and stacked.
- 7 acres of corn got in.
- 10 bushels of potatoes dug.

N. B. From 7 months deduct 31½ days labour of the farmer.

Mechanical Labour.

No report of the work-shop can now be made from November 10, 1829, to August, 13, 1830. Not much, however, seems to have been done, the students being occupied principally on the farm.

Since the inauguration of the new principal, however, an experiment has been made on the manufacturing of packing boxes, the result of which has produced the conviction that, with proper facilities, mechanical labour can be made more productive than farming. Two thousand three hundred feet of box board and seventy-five lb. of nails, have been worked up since August, into fifty-one dry good boxes, and sixty fancy soap boxes. The cost of the stuff and nails, was $36.45, and the value of the article $58.50, making the labour of the pupils worth 21.73.

Seven hundred feet of hemlock boards, one hundred and twenty feet of white pine, and seventeen hundred and sixty laths have also been worked up, the last quarter, into partitions, frames and doors, to convert the long front room of the third story and the loft of the main building, into six apartments. The job cost $60.60, and the students labour is estimated at $19.75.

The third portion of mechanical work of the last three months, is the erection of a commodious work-shop.

The eastern back wing of the main building has hitherto been the only place for mechanical operations. The Board, therefore, finding that the work-shop must be abandoned unless better accommodations were made, resolved, notwithstanding their pecuniary embarassments, to have a suitable building erected. This is now up and closed in, *exclusively by the labour of the principal and his pupils.*

The building is forty by twenty feet, two stories of twelve windows each, a commodious garret and a cellar. The sashes are mostly made, glazed, and put in—a six weeks work of the students.—The second floor is yet to be laid, a stair case to be built, the remainder of the sashes to be finished and glazed, the walls to be lathed and plastered, troughs and conductors to be made and fixed, the sash-casing and doors to be painted, the weatherboarding to be whitewashed, benches to be made and tools arranged.—The mechanical department of the institution will then be enabled to proceed with system, and with a success not heretofore realized in its history

The raw materials used thus far in the erection of this building amounts to about $220.12, and the estimate of labour 169 dollars 70 cents.

Can we view this work without emotion? What other institution of learning in this country, or indeed elsewhere, (except it were that of the Franciscans and the school of the prophets,) have had their own edifice, erected by its pupils? *The work-shop for Students*, by its projection, the hands which raised it, and by its purpose, is three-fold blessed, and honorable to this state. It is dedicated to the cause of education, and a harbinger of better days to the church.

We would close this report with a very few short remarks.

Eighteen months ago, the plan of uniting academic studies with useful and systematic bodily labour, appeared to us as an impracticable scheme, unsanctioned by the example of old institutions of learning, and incompatible with a student's life. And now there are already ten manual labour institutions in operation, throughout this country, and others about to be established. The facts which they afford, demonstrate that this manual labour system, the same indeed which Franklin and such men personally adopted, and which was no novelty to the Persians, the Greeks, and to the Jewish people—which Paul at Corinth experienced the benefit of,—is one which will also enable an entire community, and the world, to educate itself. The health preserving and life-saving labor of the hands, defrays the expenses of education. Youth of genius and piety, born in poverty, need far less the arm of charity to conduct them to public usefulness. Time and effort are almost all they require. Parents may have less of the over-reaching anxiety to accumulate means for the education of their sons,—the muscles deposited in broad and numerous layers on their bones is a *patrimony* to each one of them for this object. And the day-labourer may be informed, that the *same power*, which he expends in toil, is, in his boys, a receipted school-bill.

(For Table of Accounts see following page.)

ANTHRACITE COAL.

A. O. Hiester and Dr. E. J. Roberts, have discovered a vein of Anthracite Coal, upon the Kittatinie mountain, 8 miles above this place, and have at present several experienced miners engaged in sinking parallel shafts, and making preparations for working it extensively. Should it turn out to be of a good quality, our Borough would feel its good effects in the reduced price of this almost indispensible article of fuel. The bank is about 200 yards from the Pennsylvania Canal.—*Har. Chron.*

The Manuel Labour Academy at Germantown, in account with James Gray, Treasurer.

	Dr.				CR.		
1829 July 1.	To Mortgage,		$5,500 00	1829 July 7.	By Cash paid for Farm and Dwelling-house,		$7,000 00
Sept. 14.	To cash borrowed on Alexander Henry's note,	418 52		1830 Oct. 31.	By Do. paid for materials put into a new building erected for a Work-Shop, with the amount of labor by students included		450 00
1830 Oct. 26.	To do on Jos. Montgomery's note,	273 50			By do. paid for Household Furniture, Farming Utensils, and Books and Stationary, valued at	575 46	
1829 Oct. 6.	To do on James Gray's note,	295 30			By Produce of the Farm now on hand, valued at	300 00	
1830 Nov. 1.	To do of individuals for one year without interest,	987 32			By perpetual policy of Insurance on $2500,	76 00	
	To do collected from subscribers on certificate of stock,	609 00			Balance,	1,982 86	
	To do from Donors, do	3,058 00					$10,384 32
		239 00					
			3,297 00				
			$10,384 32				
	To balance brought down,	1,982 86					
	From which deduct amount of donations (not returnable,)	239 00					
Nov. 1.	To balance due by the Academy this day,		$1,743 86				

COMMUNICATED FOR THE REGISTER.

REMINISCENCES.

There are two subjects to which I would direct the attention of the readers of your valuable Register. The first relates to the name by which Mulberry street is still distinguished. The result of my inquiries and researches, are here given. In early times a deep ravine or hollow way caused by water running from the high land extended from Front street to the Delaware; over it a bridge had been made of stone, the summer torrents rushing with force down its channels made its banks frequently fall in and increased its width; it happened n one occasion a summer gust emitted such quantities of water that the bridge received much injury and one arch alone sustained the conflict. This single arch stood for some time and the street received in consequence the name of Arch street. The arch was considered dangerous and it was pulled down, its rubbish filling up or stopping in a degree the old channel. It happened that an unusually severe rain fell & the water rushing down the ravine encountered the rubbish of the broken bridge; stopt in its progress it spread over the adjacent ground carrying devastation in its progress.—The stores in its vicinity on Water street were filled with water. The *people* roused by the injury they had sustained thought only of vengeance on those who had pulled down the arch, and a serious riot was the consequence until the police arrived and checked its fury.

The other subject relates to the first buildings erected on the east side of Front street; what were put up in day time were pulled down in the night, till some of the depredators were discovered; a trial was the consequence; a verdict was obtained in favour of the Rioters; but on appeal to council in London, it was set aside and the right of building was conceded by council to the Proprietaries, as it appeared by the memorials from the inhabitants of the city of Philadelphia that a large majority of the taxables were in favour of the measure, as required to accommodate men of business by the erection of stores, offices, and places of security for their goods either to be put on shipboard or taken from the vessels.

The whole particulars of the last case are among the Records at Harrisburg, and frees the Proprietaries from all blame in the measure.

I send you the foregoing for an insertion in your useful paper, as the publication may elicit other information connected with the subject.

BILL OF MORTALITY IN PHILADELPHIA,

For NOVEMBER; 1830.

Diseases.	*Adults.*	*Child'n.*	*Total.*
Apoplexy	4	0	4
Bronchitis	2	2	4
Burns	0	2	2
Cancer	2	0	2
Catarrh	0	1	1
Cholera Morbus	0	5	5
Cholic	3	0	3
Consumption of Lungs	40	3	43
Convulsions	2	15	17
Debility	7	18	25
Diarrhœa	3	2	5
Disease of the heart	0	1	1
spine	1	1	2
Dropsy	4	0	4
of Breast	3	0	3
of Brain	0	3	3
Drowned	1	0	1
Drunkenness	3	0	3
Dysentery	1	0	1
Erysipelas	2	2	4
Fever	3	1	4
Billious	0	2	2
Hectic	1	0	1
Intermittent	1	0	1
Nervous	0	1	1
Puerperal	4	1	5
Remittent	3	0	3
Scarlet	0	3	3

Typhus - -	2	1	3
Found dead - - -	4	1	5
Gangrene - - -	1	0	1
Hives - - -	0	9	9
Hooping Cough - -	0	3	3
Hœmorrhage - -	2	0	2
Inflammation of Bladder -	1	0	1
Bowels -	4	1	5
Brain - -	5	1	6
Breast - -	2	0	2
Liver - -	0	1	1
Lungs - -	5	5	10
Stomach -	0	2	2
Jaundice - - -	1	0	1
Laudanum in excess - -	1	1	2
Mania a Potu - - -	9	0	9
Mortification - - -	0	1	1
Old age - - -	4	0	4
Palsey - - -	4	1	5
Sore throat - - -	0	2	2
Still born - - -	0	20	20
Small pox - - -	0	3	3
Sudden - - -	4	0	4
Syphilis - - -	0	1	1
Tumors - - -	1	0	1
Tympanitis - - -	0	1	1
Ulcers - - -	0	2	2
Unknown - - -	6	1	7
Wounds - - -	0	1	1
	146	120	266

From	*Ad.*	*Ch.*	*Total.*
31st Oct to 6th Nov.	31	24	55
6th Nov. to 13th do.	35	31	66
13th do. to 20th, do.	34	37	71
20th do. to 27th, do.	46	28	74
	146	120	266

Males 145—Females 121—Boys 61—Girls 59.
White 222—Black 44—From Alms-house, 30.

—

Ages		*Ages*	
Under 1	68	Between 40 and 50	31
Between 1 and 2	15	50 and 60	17
2 and 5	16	60 and 70	13
5 and 10	13	70 and 80	10
10 and 15	1	80 and 90	7
15 and 20	7	90 & 100	1
20 and 30	36		
30 and 40	31		266

—

Deaths in NOVEMBER, from 1807 to 1830.
(1830 inclusive.)

Years.	*Ad.*	*Ch.*	*To.*	*Years.*	*Ad.*	*Ch.*	*To.*
1807	101	54	155	1819	102	152	254
1808	81	71	152	1820	136	92	228
1809	83	106	189	1821	164	126	290
1810	86	66	152	1822	163	127	290
1811	100	95	195	1823	240	205	445
1812	51	44	95	1824	165	126	291
1813	57	39	96	1825	160	124	284
1814	87	70	157	1826	144	145	289
1815	119	58	177	1827	203	144	347
1816	82	60	142	1828	139	160	299
1817	94	48	142	1829	195	139	334
1818	139	59	198	1830	146	120	266

—

State of the Thermometer, at the Health Office, for December.

	9	12	3		9	12	3
1st,	59	62	59	16th,	56	59	59
2d,	54	61	60	17th,	54	57	58
3d	60	57	51	18th,	54	56	54
4th,	43	49	51	19th,	46	51	52
5th,	46	53	55	20th,	50	51	51
6th,	48	54	55	21st,	49	59	54
7th,	50	55	61	22d,	53	55	57
8th,	52	54	55	23d,	53	52	52
9th,	54	55	56	24th,	44	45	43
10th,	53	55	55	25th,	48	45	44
11th,	53	56	55	26th,	41	45	45
12th,	48	48	48	27th,	40	45	46
13th,	51	54	55	28th,	41	46	48
14th,	56	61	59	29th,	48	49	50
15th,	55	57	58	30th,	42	43	43

Rain during month per rt. Guage at Health office.—Inches, 550.

CENTRAL RAIL ROAD.

At a large and respectable meeting of the citizens of Philadelphia, convened agreeably to public notice, on Thursday evening, 23d inst. at the District Court House, for taking into consideration the expediency of constructing a rail road from Pottsville to Sunbury and Danville, NICHOLAS BIDDLE, Esq. was called to the chair, and H. C. CAREY and C. S. MILLER, appointed Secretaries.

On motion of Richard Peters, Esq. the following preamble and resolutions were unanimously adopted.

Whereas, this meeting are fully satisfied with the importance and necessity of the "Central Rail road," by which a fair portion of the trade and productions of the branch of the Susquehanna, which meet at Sunbury, will be conducted at a cheap rate, to Pottsville, and thence to Philadelphia by the Schuylkill navigation, and by which the supplies of merchandise and manufactures, for the consumption of the numerous inhabitants of the country on the branches of the Susquehanna, will be carried as returns, thus increasing the wealth of the state and strengthening the connexion between Philadelphia and the interior.

Resolved that this meeting earnestly recommend to their fellow citizens the support of this work by liberal subscription to the stock of the company.

Resolved, that a committee of twelve be appointed to superintend the promotion of subscriptions to the stock of the company, and that the chairman of this meeting, in conjunction with the committee of superintendence, appoint committees in the wards districts and townships of the city and county, to procure subscriptions to the stock of the rail-road.

The chairman accordingly appointed the following gentlemen on the committee of superintendence:—Mathew Carey, Charles Bird, Gen. Wm. Duncan, Nathan Bunker, Ambrose White, Wm. Chalonor, Joseph M. Sanderson, Jacob S, Waln, Richard Price, Thomas P. Cope, Clements S. Miller, Robert A. Parrish.

NICHOLAS BIDDLE, Chairman.

H. C. CAREY, C. S. MILLER } Secretaries.

The following statement of the thermometer is copied from the U. S. Gazette. In several parts of the city, the same results were indicated.

Kensington, Dec. 22, 1030.

Temperature indicated by a thermometer exposed out of doors.

Tuesday night,	10 o'clock,	13	deg.	above	0
do	12 do	11½	do		0
Wednesday morn.	2 do	10	do		0
do	4 do	9½	do		0
do	6 do (day break)	8	do		0
do.	10 do	15½	do		0

THE REGISTER.

DECEMBER 25 1830.

We intended to offer in our last number a few words of comment upon the Governor's Message, but want of room obliged us to forego the intention. It discusses subjects of immense importance relating to the federal government and state administration, but none which can interest Pennsylvania more deeply than her own *internal improvement* in the broad sense of the expression. We mean the *mental* improvement of her citizens, no less than the melioration of roads, the construction of railways, and the excavation and building of canals.—The Executive refers to this in a manner which discloses an honorable and praiseworthy zeal for the moral and intellectual elevation of the state. It is properly selected as the first topic in order, as it is the first in magnitude and consequence, to be presented to the consideration of the legislature. The neglect of education which prevails over the state as derived from the memorial of the Pennsylvania society for the promotion of Public Schools, is adverted to in strong terms, and an anxious wish expressed that the early attention of the legislative authority should be devoted to remedy the evil. We have reason to believe that in the German Counties from which the principal opposition to a general system of education, is anticipated, there begins to be a juster appreciation of the value of good schools under competent teachers, a greater sensibility to the blessings of knowledge, and a stronger conviction of the disadvant ges of ignorance than formerly. The Committee in the lower house to whom is committed, by resolution, the duty of enquiring into the expediency of establishing a general system of public instruction, we have no doubt, will find ample reason upon enquiry for a strong affirmative report.

The grand scheme of a connected communication between Philadelphia and Pittsburg, it appears is advancing gradually to completion. One hundred and twenty eight miles including the distance over the Allegheny mountain, remains to be performed. The expense of a rail road over this mountain, is estimated at between 2 and 3 millions of dollars. The Message states that in the spring, there will be an extent of navigation over the state, by means of canals, of 728 miles, and upon the completion of what is now in progress, an aggregate extent of 120 miles of rail road. These works form a proud monument of the public spirit and enterprise of Pennsylvania, transcending the expectations entertained a few years ago by those deemed the most sanguine and extravagant. If the Counsels of Pennsylvania had been exerted half as *public-spiritedly* and enterprisingly upon animated as inanimate matter, we should have little left to wish for.

We deem it unnecesary to apologise to our readers for the large space occupied in the present and two preceding numbers of 'The Register' with discussions relating to the subject of internal improvement. The articles upon the Central Railway are replete with valuable topographical information. They give the most satisfactory account of the importance of the Susquehanna river, of the country through which it flows, and of the rise and increase of its commerce which we recollect to have seen. The suggestion of the Pittsburg Gazette touching the benefits which will result from a *cross* canal to connect the Pennsylvania with the Ohio canal, is highly important. The accomplishment of such an enterprise must unavoidably redound to the advantage of Philadelphia. Setting aside the enquiry whether a better market cannot be found at Philadelphia than at New York, we may observe that the greater distance to the latter than the former place from any point on the Ohio canal south of the Portage summit; the dangers of a lake navigation; and the much larger portion of the year during which the route through the Pennsylvania canal must be navigable; are so many allurements for the citizens of that region to Philadelphia in preference to New York. But we are informed that the market of Philadelphia is actually preferred by a large portion of those engaged in mercantile business in the interior of Pennsylvania. Many purchase their merchandize in this city, and send it to New York for transportation down the Erie canal and the Lake of that name, to the most convenient town on its southern shore, rather than incur the heavy expense of portage by land.

The present number concludes our sixth volume. We have the pleasure to announce, that with the new volume we shall begin the publication of a series of original Essays to be undertaken upon the plan of the Spectator, one of which will be given every week. These essays may not, it is true, be supposed to comport with the designation of "The Register," unless by being domestic productions, they may be thought to be entitled to a place. They will, at least, diversify and enliven our pages; occasionally furnish an agreeable and instructive lesson; or impart entertainment for a moment which could be less eligibly employed. We deem so highly of the source whence they emanate, and their capabilities of intellectual and literary superiority, that we can entertain no doubt but the value of any paper containing them, will be enhanced in the public estimation. The original object was to publish them in sheets as the Spectator and other periodicals of that kind at first appeared. But literary amusement being the chief inducement to the enterprise, it was believed that weekly sheets which were destined to form a volume, would answer as well for the purpose of preservation and better for extensive currency.

The length of several articles in the present and last number, has excluded Smith's history of Pennsylvania—it will be resumed in our next number.

The weather has been excessively severe for a few days past. There was on Thursday so much floating ice, as to render it prudent to detain the steamboats—and present appearances indicate a speedy termination of the navigation for some time.

We understand the Schuylkill is closed by the ice.

The Index for the present volume, will appear next week.

LB D '05